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Outdoors in georgia

January, 1973



Heritage Trust Edition



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**Outdoors
in georgia**

January, 1973 Volume 2 Number 1

Outdoors in Georgia is the official monthly magazine of the Georgia Department of Natural Resources, published at the Department's offices, Trinity-Washington Building, 270 Washington St., Atlanta, Georgia 30334. No advertising accepted. Subscriptions are \$3 for one year or \$6 for three years. Printed by Williams Printing Company, Atlanta, Ga. Notification of address change must include old address label from a recent magazine, new address and ZIP code, with 30 days notice. No subscription requests will be accepted without ZIP code. Articles and photographs may be reprinted when proper credit given. Contributions are welcome, but the editors assume no responsibility or liability for loss or damage of articles, photographs, or illustrations. Second-class postage paid at Atlanta, Ga.

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It's Yours, It's Mine

Our Heritage



Hunters, fishermen, sportsmen, outdoorsmen, conservationists, historians, ecologists and the everyday citizens of 1788, when the fourth state of the Union was formed, were as concerned about the future of Georgia then as we are about Georgia's past now. However, there is one exception. Our concern today involves not only our future, but our past as well.

If we look back through the annals of Georgia history, we learn something of our state's strengths, its weaknesses and the poignant reasons why our state is where it is today. Different epochs and periods that reflect our state's heritage also contain something unique to that period alone.

Today we are recognizing that these monuments of Georgia's past hold intrinsic values for 20th Century Georgians to enjoy as well as for the future citizens of our state. Also, we are aware that we must plan now to preserve and protect important parts of Georgia's present heritage that will be needed to meet the expanding and growing requirements of tomorrow.

With this issue of *Outdoors in Georgia* we are including a supplement to vividly portray the challenging and intriguing program being launched by the Georgia Heritage Trust Advisory Commission to insure the preservation of our natural resources and areas of recreational, archaeological and historical significance.

To this end, we of *Outdoors in Georgia* are also dedicated.

Bud Van Orden



to kill a hawk

By Aaron Pass

As the cold gray of mid-winter holds Georgia in a chilly grasp, the careful observer has a better than average chance to watch nature's living mousetraps in action. Hawks and owls, scourges of the rodent population, are especially numerous in the state now as the resident population of hawks and owls is bolstered by migrants from the north. Most conspicuous are the large soaring hawks, such as the red-tailed hawk, which perch in tall trees near field edges or glide in sweeping circles over their hunting grounds. Also present but less seen are the short-winged "bird hawks" which stay closer to cover and the owls which hunt on silent wings through the winter nights.

Regardless of their habits and prey preferences, each species of predatory bird fills an ecological niche and performs a necessary service to the harmonious balance of the wildlife community.

Unfortunately, all are equally subject to being wastefully shot by unscrupulous or ill-informed individuals. A number of these incidents are caused by trigger-happy slobs who shoot at anything they see, but just as many are perpetrated by otherwise careful and responsible citizens.

Unfortunately, the predatory nature of hawks and owls has gained for them the undeserved reputation of merciless killers of game and poultry. As a result many hunters and farmers wage a ceaseless war against the birds of prey, secure in the mistaken notion that they are performing a valuable service to the chickens and the wildlife in the area. These individuals would be surprised to disbelief by the information that they had actually injured the environment by killing a hawk and absolutely shocked to learn that they had violated the law.

Hawks and owls are protected by State law. In 1963 the General Assembly of Georgia passed a law protecting all birds except the crow, starling, English sparrow, and game birds during a legal open season. This law protects the predatory birds with the exception of those "... in the act of destroying poultry ...". The intent of the state to protect birds of prey is specifically revealed by the inclusion of all birds of the order *Raptores* (hawks and eagles) in the totally protected species classification in the 1972-73 Hunting Regulations. These laws and regulations were enacted to protect these birds as valuable components of the ecology, whose predatory activities are of great benefit to farmers and sportsmen alike.

The farmer has traditionally viewed the hawk and, to a lesser extent, the owl, as arch enemies of his chicken flock. In fact the names "chicken hawk" and "hen hawk" are in general used to identify all of the large soaring hawks in view of their alleged depredations in the chicken lot. This is truly ironic since these same large hawks are primarily rodent feeders and are the farmer's best defense against field rats, but take few chickens.

Like the farmer, many hunters consider hawks and owls competitors which deplete the crops of gamebirds with no regard to season or limit. Actually, the birds of prey perform a valuable service to both the game species and the sportsman by controlling populations and the spread of disease. Many hawks feed mainly on cotton rats and other small rodents which compete directly with game for food and cover. In another respect hawks and owls are a direct benefit to the small game species by the removal of sick individuals. Research has documented that natural predation is selective by removing the weakest individuals of the prey species. Thus the hawk or owl that takes the diseased quail may well prevent the infection of the entire covey.

Hawks and owls admittedly take some poultry and some game, but research has proved this to be a much smaller amount than previously believed. In a study by the U.S. Department of Agriculture, 5185 hawk stomachs were analyzed for contents that would indicate the extent hawks feed on poultry and game. In almost every case insects, rodents, and small birds made up more than 50% of the contents with poultry and game birds being present in very minor amounts. In the case of rough-legged hawks, a large soaring species, rats and mice made up an average of 72% of stomach contents. Game

birds accounted for 4.3% and not enough poultry was found to show up in the sample. The highest consumer for both poultry and game was the Cooper's Hawk with 10% poultry and 12% game birds, 55% small birds and 17% rodents.

Thus the loss of a hawk is the loss of one of nature's most efficient rodent control measures, a virtual living mousetrap. Recognizing the value of the role of the birds of prey in maintaining healthy wildlife crops and in controlling field rodents, many conservation groups have endorsed the legal protection of hawks and owls. These include many enlightened conservation and sportsman's clubs, as well as the prestigious National Grange, which represents more than 850,000 farmers.

Hawks and owls are going to need all the help they can get to survive the modern world in which their numbers are diminishing. They share with most other forms of wildlife the continual loss of habitat to an expanding human population. As superhighways, housing developments and shopping centers continue to gnaw away at rural acres, less and less land will support hawks and their prey.

Yet another threat faces the birds of prey which may soon accomplish what man and gun have failed to do in 200 years. Pesticides may eventually eliminate hawks and owls. Since the predatory birds live a relatively long time in comparison to other birds, they have a tendency to accumulate these pesticides in their bodies. These stored poisons have detrimental effects long before they build up to a lethal dose for the individual bird. The most noted of these effects is the loss of reproductive potential through infertile eggs and egg shell thinning.

In Georgia, lowered reproduction has been noted in Cooper's, broadwinged, red-tailed, and marsh hawks; the last three being important rodent predators. In the face of such insidious threats as pesticide poisoning and loss of habitat, the future of the birds of prey is not exceedingly bright. It is a shame that each year hawks and owls must also run a gauntlet of gunfire directed at them by thrice-over ignorant shooters: shooters ignorant of any code of sportsmanlike conduct, of the law protecting predatory birds, and of the true value of these birds both to man and the wildlife community.





Introduction to Backpacking

By T. Craig Martin

It's not necessarily true that a back-packer's feet are stronger than his head, although I've often thought that of the guys that streak by me on the trail, their packs stretching far below their waists and above their heads. As for me, my feet generally hurt worse than my head, but neither has complained nearly so much after a day on the trail as after a day of shopping or yardwork.

Most people, of course, think of hiking as something that can only be done in dull green clothes and new, ill-fitting, blister-causing black boots. And never by choice. But it ain't true; backpacking and hiking can be the most enjoyable outdoor sport you'll ever find, if only you'll plan ahead a little and forget most of what that crusty sergeant forced you to learn.

Modern hiking gear is light, comfortable, and relatively inexpensive, although the prices can be higher than Brasstown Bald on a steamy day if you insist on the ultimate. The old black clodhoppers may rate a sacred place in the back closet, but you'll never wear them on a trail after trying a pair of carefully fitted two or three-pound hiking boots; that rib-blistering, kidney-punching pack definitely will lose out to a fitted lightweight aluminum frame and nylon pack; and maybe, just maybe, you'll find a new use for the cloth in your old tent, but you'll never carry it again after sampling one of the new nylon styles. You

may even enjoy getting up after a breakfast of fruit cocktail, a western omelette, coffee cake and cocoa, all of which weighed less than two pounds when you carried in enough to feed four.

All this comfort and convenience costs something, though, and the gear must be carefully selected or it can be just as awful as GI issue. We'll take a general look at backpacking equipment in this article, then examine specific items more thoroughly in later issues.

People hike in everything from lowcut sneakers to five or six-pound mountaineering boots, but it seems likely that only a few of them really are comfortable. Your feet need support if they're to bear any extra weight—tennis shoes, street shoes, and most work shoes just don't give them the help they need. But even the best boots must be chosen carefully and fitted well by someone who knows what he's doing.

"Light" boots (up to about 3½-pounds) are fine for Georgia trails. They should fit snugly, particularly at the heel so there is not much movement (no more than about ⅛-inch) when you raise your heel. A heavy lug sole will provide a cushion against rocks, and give firm footing in slippery places. Hunting boots sometimes fit these standards, but they usually aren't selected with packing in mind, and often are heavier than necessary.

They'll do for occasional hiking, but serious packing requires serious shoes.

Next to your feet, you'll probably have the most aches in your back and shoulders, especially if you attempt to carry any weight at all in the old fashioned rucksack. These venerable creatures suspend all the weight from your shoulders, which weren't designed for that kind of thing—no matter what your sergeant said or the way your girlfriend coos. In fact, your back and shoulders are pretty delicate, and if you want to carry very much very far, you'd best find someplace else for the load.

That's exactly what a modern packframe does. These light, strong (welded aluminum or magnesium) frames are designed to: a) distribute your load evenly so you stay balanced; and b) put the weight on your hips and legs where you were designed to carry it. If the frame is properly fitted, the shoulder straps serve only to hold the load in place; they carry none of the weight, which is suspended on a waistband. Add a coated nylon bag to this frame, and you've got a rig to carry all you want as far as you want to go.

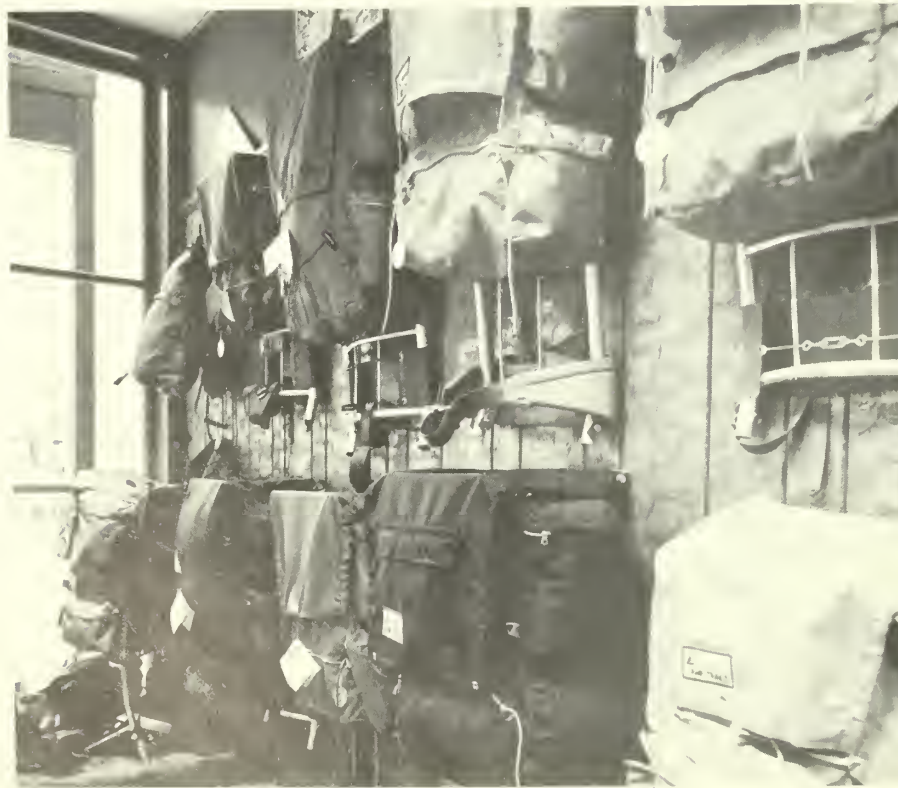
One of the things you might want to stuff in that lovely light pack is a sleeping bag. Not one of the canvas and flannel ones with animals cavorting on the lining like your kid has, but one of the tough, light, nylon and down creations now on the market.



Photos by T. Craig Martin

Hiking and climbing boots come in a bewildering variety of styles, shapes, and sizes. Your best bet probably is to put yourself at the mercy of a knowledgeable salesman. (Photos on pages 6 & 7 taken at Appalachian Mountaineering, Ansley Mall, Atlanta.)

A selection of pack frames and bags. The frame should be fitted, then the choice of a bag narrows to a model that fits the frame in single or multiple compartment, full-length or 3/4-length bag.



Or, if you're an experimenter, one of the newest foam types.

About all that dacron bags have going for them is price. They're heavy, bulky and don't keep you warm worth a darn unless you're inside a heated tent or camper. But they're cheap, maybe \$10 to \$40 or \$50, which is one half or less of what you'll pay for the best down bags. If you're going to get a bag for carrying, or for use in cold weather, it's only sensible to think about a down bag.

There's a lot of variety here, and we'll cover the individual types more thoroughly in a later issue. But the main things to look for are: a) prime goose down, or in slightly cheaper bags, prime duck down; b) a construction scheme that eliminates sewn-through seams (A sewn-through seam will completely foil the down's insulation, and the cool night air it lets in will tickle you crazy); c) a strong zipper, preferably the nylon coil type, backed by a down baffle; and d) room enough to be comfortable. That "mummy" bag will save you some space and weight, but you may feel like the creature from the crypt trying to get out of it.

If you do decide on a down bag, you'll need some insulation between the ground and the bag, because a down bag works by creating thousands of tiny dead air spaces to insulate your warm body from the cold air. When you lie on it, you compress the down and destroy these air pockets, so the bag doesn't insulate. An air mattress or foam pad will keep you off the ground, and may even help disguise all those rocks you missed in your rush to set up camp.

Another thing you'll probably want is a tent to keep the rain and the critters out. Good two-man tents weigh anywhere from three to seven pounds, which isn't too much considering the comfort they provide. Most tents now are coated nylon, held up by aluminum poles, and better ones have heavily coated waterproof floors, with "breathing" upper portions to avoid condensation. This upper portion is protected in heavy rain by a fly that's either separate or built-in. These tents usually have a zippered screen front and some sort of vent, with a front closure that can be shut in bad weather.

Once you get to some remote spot, you'll probably want to eat, drink and



Photos by T. Craig Martin

Lightweight camping stoves provide the ultimate in portable heat, and they, combined with freeze-dried foods, can make outdoor cookery a gourmet's delight.

generally be merry. This, too, can be simplified by modern equipment. Most campsites you'll find will already be devastated by those before you, and the dead wood will be stripped for miles around. **Do not, repeat, do not** cut down a living tree—there aren't enough to go around. If you're really interested, you won't even knock down that beautiful dead tree or hack away at that old stump.

You just don't need that fire, if you think about it. Sure it's pretty and it makes you think of that nonexistent great-hunter ancestor, but you don't really need it most of the time. Cooking is much more efficient over one of the lightweight gas stoves (Not one of the ubiquitous Coleman monsters), and a lot easier on the environment. These single-burner stoves weigh less than two pounds with their fuel, and





There's something in this freeze-dried supermarket for everyone's taste . . . all you have to do is find it. (Photo taken at American Adventures, 370 Northside Parkway, Atlanta.)

Photo by T. Craig Martin

are a lot more adjustable than the average campfire.

Camp cookware has moved a long way from the old iron frypan and coffee pot. Nesting aluminum pots with frypan lids weigh little, and take up very little space.

What goes into those pots has changed even more. Gone forever are the old beans and bacon days: now you can have beef stroganoff (13 ounces for four servings), turkey with noodles (13 ounces for four), or spaghetti with meatballs (again 13 ounces), a side order of corn, peas,

carrots, or green beans, and a dessert of fruit salad, pudding, cobbler or applesauce. The whole meal for four will cost about \$4.00, and weigh 1½ pounds.

We'll talk about specific items in later issues, and will try to suggest gear best adapted to Georgia conditions. If you're interested in the meantime, however, you might read Colin Fletcher's *THE COMPLETE WALKER* (Knopf, 1969), or Robert Wood's *PLEASURE PACKING . . . How to Backpack in Comfort* (Condor Books, 1972).

Of course, if wandering around in the woods seems too frivolous, you can always claim to be doing something useful, like scouting deer trails, or searching out that perfect trout stream. Backpacking equipment will greatly expand your range by letting you go further and stay longer. But whatever your avowed goal, modern equipment can only help by making your trip more convenient and comfortable.



By T. Craig Martin

Photos by Jim Couch

Winter's cold and drizzle traditionally offers the bass angler respite from the chase, allows him time to relax by the fire with comfortable old books, provides him an opportunity to savor the moment when visions of bass dance through his head. Then can he review each epic battle, remember the throbbing rod and screeching drag, perhaps sorrowfully recall those that got away.

The angler can look forward to spring's golden warmth, or, if he's truly dedicated, to a moderate winter day when he can renew his challenge to *Micropterus Salmoides* & Co. Perhaps even Shakespeare indulged in such a moment back around 1606 when he wrote:

"Give me mine angle, we'll to the river; there,
My music playing far off, I will betray
Tawny-finn'd fishes; my bended hook shall
pierce
Their slimy jaws."

In its more virulent forms this anticipation entices the angler to his tacklebox, where he examines each lure, fondling the worms, hefting the plugs, testing each hook with a surgeon's care. He may even repair to the back yard with a practice plug for an hour or so of rehearsal.

The fisherman may, in short, seem strange to the uninitiated ("A stick and string with a fly at one end and a fool at the other," one observer scoffed), but he's a hard working stranger. In honor of his dedication, **Outdoors In Georgia** herewith provides the angler with a brief refresher course to warm his wintry days.

to rig
a

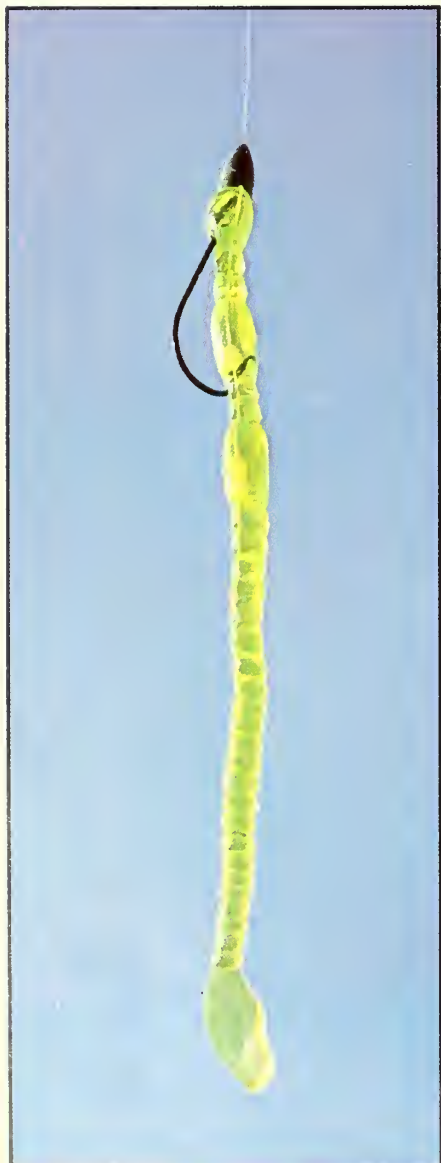
WORM

Stan Herdlein of Stembridge Products ("Flip-tail" lures) agreed to profess this course, and, like all professors, he has some jargon all his own: what the rest of us call plastic worms are, to him, "soft plastic lures." Which is only fair, he claims, since they resemble eels or small snakes more than they do worms... Whatever he calls them, however, Stan knows how to rig these critters as well as anyone around, so it behooves us to listen when he instructs.

The single hook "Texas" or weedless style probably is the most common—and most productive—rig for plastic lures. Stan recommends a 4/0 sproat hook for 7-inch lures, a 5/0 or 6/0 for the 9-inch versions; and he favors a straight barbed shank over the bent-shank Eagle Claw style. Use bullet sinkers, varying the weight according to wind velocity and the depth you want to fish.



The point goes into the head of the lure slightly above its centerline . . .



The perfectly rigged "soft plastic lure"—simple, but the result of precise steps.



and is brought out about 1/2-inch down the body.



Slide the body up the shank of the hook to the barbs, but not over them . . .



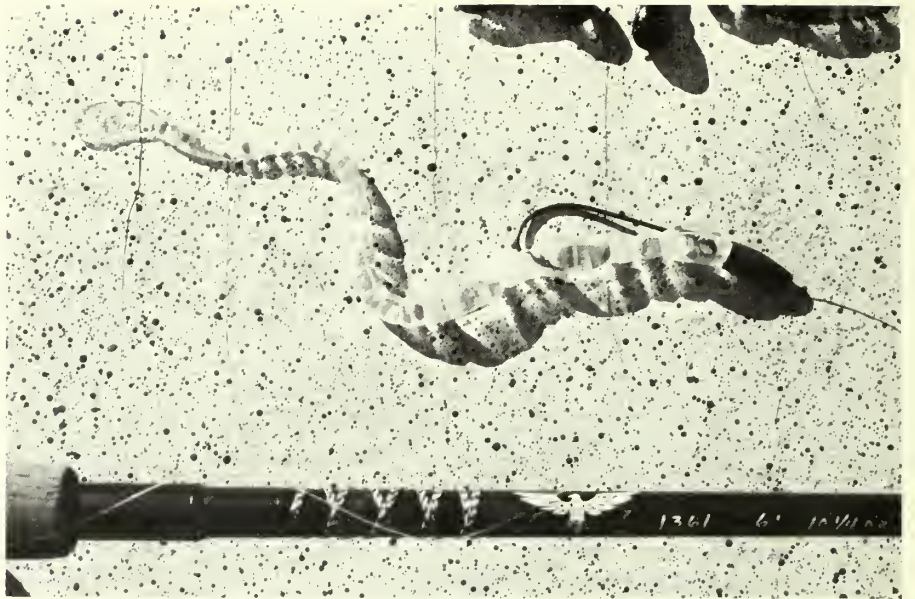
and turn the hook so that the point faces the lure.



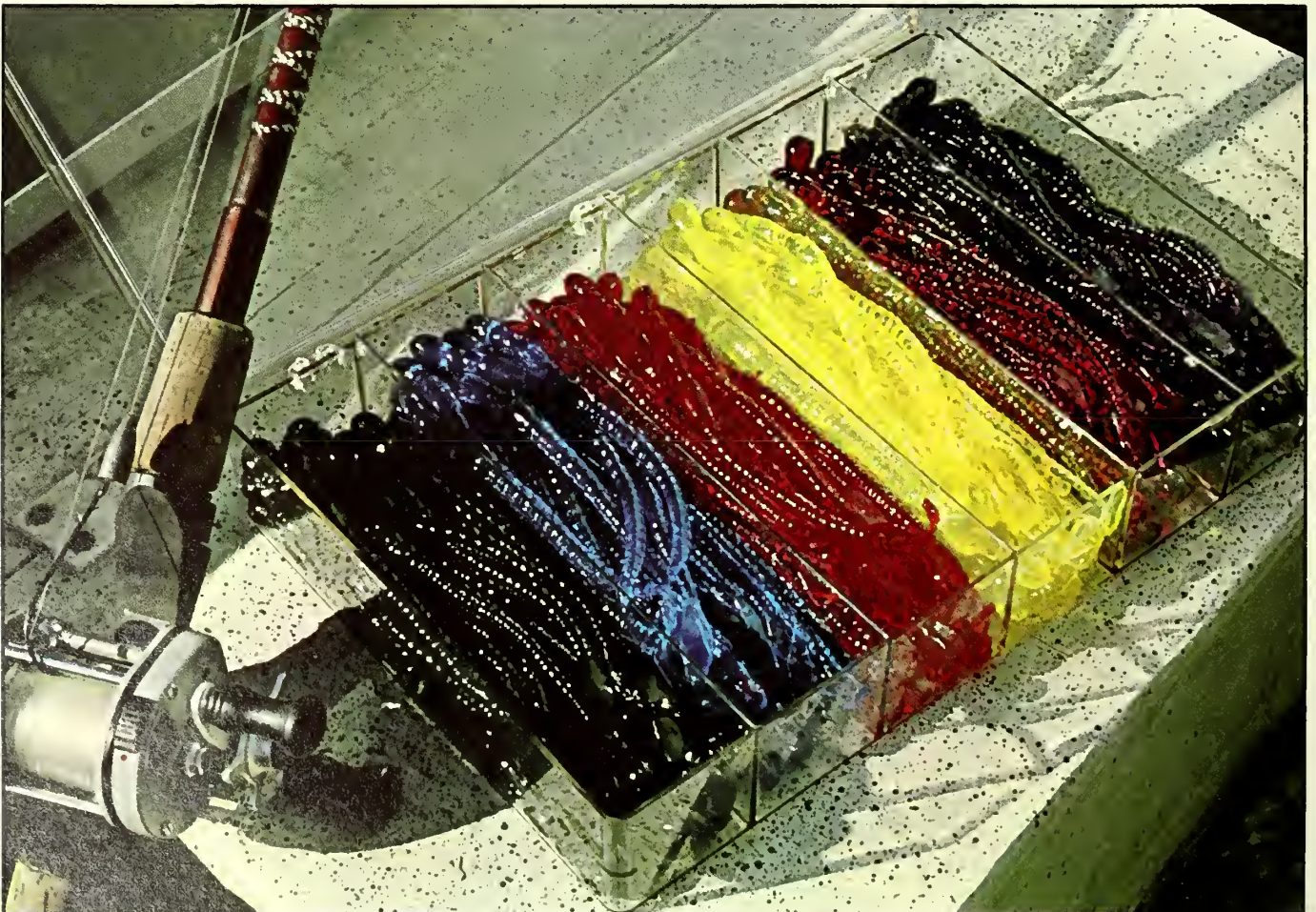
Then slip the body over the barbs, the eye of the hook, and the knot. At this point, the eye of the hook should be parallel to the body, and the lure's head closed over the line. Mark the bottom of the hook's curve with your thumbnail . . .



then bend the body upward and insert the point there. Be sure not to twist the lure as you do this, or it will spin in the water and twist the line.



The point should be pushed through past the barb, but not through the opposite side of the lure. This leaves a weedless and straight rig that will pull over or through almost any bottom structure and will not kink your line.



A black and white photograph of a landscape. In the background, a line of trees stretches across the horizon. The foreground is a field of tall grasses or reeds, some of which are in focus. The overall scene is serene and natural.

GEORGIA

Heritage Trust

Portraits of Georgia

Text by Bud Van Orden

An artist paints and a picture emerges. And although this first effort is not worthy of any immediate acknowledgement of greatness or claim to immortality, it does show promise of things to come. This rendering, and those that follow, will represent certain important and integral phases in the artist's life. As he or she matures, and is affected and subtly influenced by the happenings of the world and the resultant pressures of the times, so also will the artist's work be affected so that each picture will portray something important or representative of the various periods or stages of growth and development in the artist's life.

When, finally, the works of the artist are truly acclaimed as having achieved greatness, it is easy to then look back at the earlier attempts, and see graphically the patterns of growth in each which represent and reflect the heritage of the time in which they were painted. Considered together, this accumulation of portraits represents a vivid picture of the heritage that resulted in the artist's greatness.

Greatness is not given, nor does it come easily. It must be earned, and while being earned, it will be documented and recorded for all to see just how and why it was indeed earned. Many scoff at it, for they cherish it for themselves.

Georgia is great. Its greatness was not given, but was earned through its struggle for survival during early colonization, a civil war, and in its determination to become a state that would build a heritage unsurpassed in the annals of history. Its greatness is like that of the artist.

Since becoming the fourth state of the Union in 1788, Georgia has indeed recorded countless epochs of history that represent the story and the glory that make our state what it is today. Each era of our state's greatness has left some noticeable and recognizable elements that today richly and vividly portray

a picture out of the past—our heritage. It may be a natural area of scenic beauty, an archaeological wonder, a civil war site, an early Georgian home reflecting the architecture of the period in which it was built, or any one of a number of treasures that are Georgia.

There are those who believe that we should look at our past so that we can plan for our future. However, much of what once represented Georgia's past can no longer be seen. Through neglect, we have allowed much of what used to be a part of our state's past to be leveled or destroyed for the sake of progress. Great monuments of the past have been bulldozed under to be replaced by today's modern technology. Archaeological wonders, some found only in Georgia, are being wasted and destroyed so that future generations will only be able to read about them, not touch and feel them as we could just a few short years ago. Rustic, scenic, historical and natural areas that can never be replaced when once altered are being wantonly destroyed and replaced by commercial development.

We have reached that point in time when it is imperative that we decide if we wish to preserve natural areas of importance available today as well as vestiges of the past for future generations to see and enjoy, or if we are going to let them slip from our grasp and become extinct only to be read about in history books.

Today, in the decade of the Seventies, sites of natural, recreational, historical and educational significance are at a minimum and their scarcity has brought concern to countless numbers of Georgians who believe "that the past is but a prelude to the future."

The alarmingly rapid loss of important and significant sites that once represented an integral part of our state's heritage has not gone unnoticed. Concerned citizens, conservationists, historians, ecologists, recreation specialists,

sportsmen and outdoorsmen alike voiced their opinions to a Governor who not only shared their views, but was willing to take the necessary action to insure the protection and preservation of the remaining examples of Georgia's heritage.

To face this challenge, on July 21, 1972, Governor Jimmy Carter created the Georgia Heritage Trust Advisory Commission, composed of 15 prominent leaders representing a diversity of public and private conservation interests at all levels of government. The Governor's charge to the commission was five-fold:

They were to develop the most appropriate procedure for identifying, acquiring and protecting vital elements of our heritage; create a program for the immediate acquisition of the most significant and endangered historical, environmental and recreational areas; devise a method for periodic review and determination of additional areas so as to assure the continued quality of life of our citizens today and in the future; develop appropriate measures for protecting such sites and areas in order to assure their preservation and continued value; and insure citizen involvement in the identification, acquisition and preservation of such recreational facilities, historical sites and environmental areas.

The commission immediately created an inter-agency and inter-disciplinary Task Force composed of the Georgia Forestry Commission, Georgia Historical Commission, Office of Planning and Budget, Department of Archives and the Georgia Department of Natural Resources.

Sites were carefully analyzed and classified into three categories: environmental, historical and recreational, and were judged as to their degree of significance, endangeredness, balance and accessibility. The Task Force reviewed 38 sites and recommended an initial 15 to the Governor for immediate acquisition

due to their impending loss if action was delayed.

On November 18, 1972, the Georgia Heritage Trust Commission held a statewide briefing to initiate a statewide program of identifying and classifying additional sites as part of a 10-year acquisition program. The evaluation of the sites is to be completed by December of 1973 and will be the basis for the overall program.

Geographically located throughout the state are 18 Area Planning and Development Commissions which will serve as focal points from which local community volunteers will serve in carrying out the 10-year action program.

Recommendations for sites will cover estimates for acquisition, feasibility studies, and policies regarding operations, and will include heritage sites of recreational, historical, archaeological and natural area significance.

Governor Carter, in responding to the Heritage Trust Program, asked the General Assembly to appropriate 17 million dollars in support of the first year program and further pledged his continuing support in developing a program that will preserve the state's heritage of yesterday while providing for a heritage that is yet to come.

To insure the listing of all sites that are endangered and subject to loss unless immediate protective action is initiated, the Governor requested that further studies be made to be certain that all sites of significance (natural areas, historical, recreational and archaeological) be included in the first year's acquisition program.

The following pages represent outstanding examples of the various endangered sites recommended to the Governor for acquisition under the Georgia Heritage Trust Program. Many of these sites are available now to the highest bidder and some will be lost, never to become a part of our state's heritage. Some will be gone forever, even now, as you the reader scan these pages of treasures that belong to the people of Georgia. Others that were destined to be a part of our heritage and a part of this writing are already gone.

Woodall Tract, Chattahoochee River

Scenic almost beyond description, challenging to the trout fisherman, and daring to those who ride the crests of its rapids, the Chattahoochee's rustic and natural beauty can easily overwhelm a visitor to its banks. The 48-mile stretch of the Chattahoochee River from Buford Dam to Peachtree Creek is probably the most unspoiled scenic, historic and ecologically interesting river remaining in any major metropolitan area of the United States. Outstanding scenic distinction, ecological uniqueness, wilderness character, historical and archaeological significance, educational and scientific interest, fishing quality and canoeing, tubing, and hiking suitability combine to make the area one of almost unlimited recreational potential.

The Chattahoochee lies within Atlanta's major growth corridor, and the implacable expansion of development threatens to transform it into a southern version of the Charles, the Potomac or the Hudson. Today, at least 70% of the river-front land on both sides of the river is owned by real estate developers and speculators. Public acquisition of several major tracts is essential within the next year if the natural integrity of the Chattahoochee is to be preserved for future generations.

Bordering a portion of the river in Fulton County is 195 acres of beautifully wooded acreage known as the Woodall Tract, the most unique site of several acquisitions planned on the river. It is primarily forested

with hardwoods on both the mainland and island property and contains outstanding botanical species as well as numerous small game, including quail, squirrel, rabbit, muskrat and beaver. The shoals area, one of the two largest on the river, provides an excellent habitat for trout and is the most popular spot for trout fishing on the entire river. The Morgan Falls Reservoir touches the top of the property, creating an interesting combination of still water and free-running river.

Old roads provide excellent means for exploring the area's exciting historical remains which include Indian rock shelters, pottery from the Mississippian period and possibly relics from Nomadic time.

The property is endangered and loss to development is imminent if steps for acquisition are not initiated. It is currently zoned agricultural and residential, but a change to apartment-condominium is pending.

To be called Island Ford State Park, the property would blend harmoniously with other recreational park areas identified along the river and would compliment the total recreational and park system under consideration for the area.

The scenic, recreational, historical and archaeological significance of this property—coupled with the fact that the area is within 30 minutes' driving distance of 1,500,000 Georgians—leaves it without comparison today.

*Out of the hills of Habersham,
Down the valleys of Hall,
I hurry amain to reach the plain,
Run the rapid and leap the fall,
Split at the rock and together again,
Accept my bed, or narrow or wide,
And flee from folly on every side
With a lover's pain to attain the plain
Far from the hills of Habersham,
Far from the valleys of Hall.*

Song of the Chattahoochee
Sidney Lanier

Out of the hills of Habersham

Down the valleys of Hall

I hurry again to reach the plain

Run the rapid and leap the fall

Split at the rock and together again

Accept my bed or narrow or wide

And flee from folly on every side

With a lover's pain to attain the plain

Far from the hills of Habersham.

Far from the valleys of Hall.

Song of the Chattahoochee
Henry Lee

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Wormsloe

Historically speaking, Wormsloe provides a not-to-be-duplicated example of early Eighteenth Century Georgia and portrays a vivid record of our state's early history.

Built in 1739 near Savannah on the Isle of Hope and today easily accessible by the new Skidaway Island Causeway, Wormsloe was one of the original buffer forts constructed to protect Savannah from the Spanish, and it has remained in single family ownership through the past two and a half centuries. Wormsloe is adjacent to the existing Skidaway Island State Park.

Originally started with a 500 acre grant from George II, King of England, to Noble Jones, an associate of Oglethorpe, Wormsloe received an additional 350 acres from

King George III. These original grants remain intact today and are preserved in the state archives building.

The large plantation home was built in 1837 and is lived in today. The Wormsloe library, constructed in 1870, contains a complete history of the Confederacy including an original copy of the Articles of the Confederacy which is today on loan to the University of Georgia.

Wormsloe's existence as part of Georgia's heritage is highly endangered. Seven hundred fifty acres of virgin timber, natural areas and historically significant buildings, grounds and adjacent marsh are owned by the Wormsloe Foundation, which previously held a tax exempt status. This exemption has been revoked and there is currently a pending tax lien which will devastate the foundation. Its natural and historical significance must be preserved.

Historians have said, "History worth knowing is worth preserving," and Wormsloe's historical significance must and can be preserved if the state assumes its present tax lien.

Lewis Island

Natural resources, abounding on Lewis Island, describe the past, are a vital part of the present and indicate what the future might be. Lewis Island truly holds mysteries of the past, yet unknown to man and yet to be.

In the center of this 5,500 acre tract, hidden from the world, stand towering giant cypress, the only known stand of virgin cypress in the state, representing 1,300 years of heritage.

Nestled in its safety, a sanctuary provides a habitat for rare species of animals—the lumpkin, the magnificent swallow tailed kite and Mississippi kite. Fish, amphibians, reptiles, birds and mammals abound. Human culture is also entwined in the history of this

great swamp as evidenced by early Indian village sites.

Seeing these giants of time is an educational experience. Botany, ecology, biology, beauty and history are contained in this one tract of land as is the history of logging itself.

Recreationally speaking, the island holds great potential—boardwalks through the great wilderness, built above the water level; high towers, exposing the great secrets of the trees; and camping decks, for those who wish to brave the voices of the night.

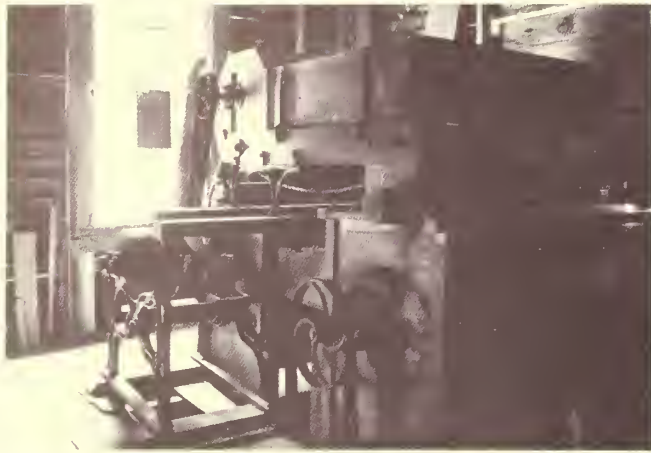
Lewis Island, truly a primary source for educational experience not only of the past, but of the present and the future.

But the giant cypress monarchs on Lewis Island live on borrowed time, for their owners must soon use the recently constructed roads to the cypress forest to begin a logging operation that will rid Georgia of a unique treasure indeed.

If developed into a wilderness park, access to the island would be by boat only, and would offer a wilderness setting unparalleled in its character.



Jarrell Plantation



Crops harvested from Georgia's famous red clay have helped build much of our state's commerce. Truly, agriculture has been a dominant factor in the development of rural Georgia and the state itself in the early agrarian economy. The Jarrell Plantation, 15 miles from Macon in Jones County, is a seven-acre farm complex, that reflects a wide period of history from the 1850's, through post Civil War times, to the World War I era. Amazingly, it remains a unique self-sustaining farm operation in a near perfect state of preservation. It includes houses, a barn, carpenter and blacksmith shop, buggies, wagons, threshing machines, bailer, sawmill and cotton gin, all running and operational today.

It is an excellent example of farm and plantation life of the post-Civil War era. It records the history of Georgia agrarian culture and is being offered to the state without cost.

Barrington Hall



Remnants of the antebellum era in Georgia are fast diminishing. Barrington Hall, an exceptionally well preserved example of a Greek revival style antebellum townhouse with its original boxwood gardens and old outbuildings, is one of the last of its kind.

Picturesquely located on seven acres in the heart of Roswell, Barrington Hall, built by the founder of Roswell, is entirely unchanged inside and out, containing much of the original furnishings and family belongings.

The warmth and charm of the style of the era from which it came can still be seen—and it could dramatically serve as a history museum exemplifying the white-columned era in Georgia. And where more appropriate should a “Gone With The Wind” era estate be presented.

Pigeon Mountain

Pigeon Mountain, deriving its name from the passenger pigeon which once roosted there, is a 17,000 acre little-known arm of Lookout Mountain. Rising in elevation from 800 feet on the valley floor to 2,200 feet on the top of the plateau, Pigeon Mountain offers a multitude of natural wonders and a quality of wilderness which today is highly endangered by land speculation and mountain development.

It offers a rare visit to the outdoors, a documentation of history and archaeological significance and a challenge to manipulate its caverns and walls.

Pigeon Mountain contains eight caves, two of which are classified as major caves in the eastern United States. Petty John's Cave, first described in 1837, has 4.5 miles of passageway presently mapped with new passages still being discovered. Petty John's Cave, however, is small beside Ellison's Cave, the third deepest in the United States. Two of its pits rank first and second in depth among caverns found anywhere in the world. One called the "Fantastic" has a perpendicular drop of 510 feet. The other, the "Incredible" has a free fall of 440 feet. At present, eight miles of caverns have been explored in Ellison's Cave and this is said to be only a small fraction of the Ellison system, which enters near the summit of the mountain and emerges at the foot.

Geologically fascinating rock formations representing 150 acres known as rocktown present a version of Disneyland in rock. Fossils 280-450 million years old can be found, picturesque and scenic waterfalls abound, historic points of interest are everywhere, wild flowers compose a botanical garden and scenic vistas surprise the eye. A natural amphitheater where acoustic reproduction is near perfect is accessible through the pocket area on the mountain. This is just a part of what makes up Pigeon Mountain, an area few Georgians have ever seen, but once viewed, could never forget.

Because of its size and its diverse and unique natural characteristics, Pigeon Mountain provides an excellent habitat for game management areas and could greatly increase the deer and other wild game populations in northwest Georgia.





Fort Morris

Colonialization created Georgia and its heritage, and Fort Morris, in Liberty County, is one of the most important surviving vestiges of Georgia's colonial and revolutionary period coastal history.

Built on the Medway River to protect the important 18th Century port of Sunbury, Fort Morris is one of the few remaining revolutionary period earthwork fortifications.

Nearby, the historic Midway Church, Cemetery and Museum already complement the importance of the Fort as a historic site.

Presently the state owns only approximately 12 acres of land at the Fort Morris site and we need 20 additional acres to adequately protect the present site and allow easy access to the property. The fort would vividly provide an irreplaceable example of a portion of early Georgia's history and would be one of Georgia's major contributions to the bicentennial of the American Revolution.

The Augusta Canal, built by Chinese labor, is a historically significant landmark. The Chinese were brought to Augusta to build the canal and to work in Georgia textile mills built along the canal. The resource is itself a historic and scenic part of Augusta. It is both a power canal and a source of drinking water for the City. The canal extends from the lock and dam on the Savannah River on through downtown Augusta until it empties back into the Savannah at Hawks Gully. Presently, plans would center around the development of a 1,000 acre park, winding its way through Augusta using the canal as a focal point. Already 500 acres are publicly owned, but speculators are rapidly investing in all available bordering property.

Trails, footpaths and bikeways as well as road development along the parkway would highlight the development and the possibility of some form of urban water transportation system along its canal has increased interest notably.

The Chinese were the labor force behind this “public works project” sponsored by the City of Augusta, but have remained in Augusta to become outstanding and highly respected citizens of the community.

Bear Island

The Quaker contribution to the heritage of Georgia is little known and not fully understood. The town of Wrightsboro in McDuffie County was established in the 18th Century and settled by people seeking to achieve the religious freedom that originally led many to Georgia. Now the last vestige of this lost community, the Old Rock House, stands partially preserved by private funds but subject to constant vandalism. This fortress-like home represents an irreplaceable element of Georgia's heritage.

Augusta Canal

The original vision of Georgia to our forefathers was not what the visitors see today. Bartram, the 18th Century naturalist, wrote of “vast cane meadows” of massive proportions along the Savannah River and elsewhere. Today, they are all a thing of the past except for the tiny remnant on Bear Island in Effingham County. Here they grow with virgin bottomland hardwood—also a soon to be lost element. Preservation is possible because of a lumbering firm's concern to afford the state an opportunity to protect the island. A large area surrounding the island would provide an area for game management as well as for educational and recreational experiences.

Old Rock House

Pine Log Mountain

Often, surprises have been found in the heritage of our state such as Pine Log Mountain—a nearly undisturbed wilderness within 50 miles of Atlanta in Bartow and Cherokee Counties. Unusual plants have evolved in the varied soil conditions, and the rugged terrain affords a habitat for turkey vulture, ruffed grouse and black-throated green warbler. Evidence of a rare Indian grinding mill and other artifacts provide unique insight to the progressive Indian cultures of our state. Today a development of second homes threatens to deny the citizens of the entire state this site rich in education, recreation and research opportunity.

Marshall Forest

Marshall Forest in Floyd County has long been recognized by local, state and national groups as a unique example of a natural loblolly and shortleaf pine forest. It was recognized as one of the original 14 National Natural Landmarks in 1966. The site is located within the growing metropolitan area of Rome in Floyd County and is adjacent to Shorter College. It is an example of a family's concern to preserve an educational and recreational opportunity until the time when their own private funds become depleted. That time has come. Developers now offer the only funds that can pay the needed tax revenues for the community. This rare example of our natural history would serve as an open space area, and a natural education and research facility for citizens of Northwest Georgia and Shorter College.

*Pleasant it was, when woods were green
And winds were soft and low,
To lie amid some sylvan scene,
Where, the long drooping boughs between,
Shadows dark and sunlight sheen
Alternate come and go;*

*The green trees whispered low and mild;
It was a sound of joy!
They were my playmates when a child,
And rocked me in their arms so wild!
Still they looked at me and smiled,
As if I were a boy;*

Voices of the Night
Longfellow





McIntosh Inn

Georgia's heritage is filled with stories concerning the Indians and their involvement in the development and settling of colonial Georgia. Steeped in tradition and rich in the Indian culture of the time in which it was built, the McIntosh Inn, or the Varner House, is an early inn and long-time resort hotel adjacent to Georgia's oldest State Park, Indian Springs. It was built by Creek Indian Chief William McIntosh and a partner as an inn for visitors to the springs.

The signing of the Treaty of Indian Springs allowed McIntosh to sell 1,000 acres to the U.S. Government, but he was murdered by the Upper Creeks for selling this plot without the full consent of the Creek Nation.

The inn would greatly augment and enhance the already established Park operation and would provide the state with a site devoted to the history of Georgia's famous

resort springs and that is representative of Creek Indian life.

Preservation of the inn would make certain that history concerning Indian culture and Indian participation in the early days of our state's heritage would be enshrined for future generations to see.



Soapstone Ridge

Sites of open space and archaeological prominence are scarce anywhere in the world, much less in Georgia. However, on Soapstone Ridge in DeKalb County such a rare combination exists. There is definite archaeological evidence of quarrying for various sized blocks and bowl preforms during the late archaic period—3000 to 15000 B.C.—and economic and technical development as early as 5000 years ago. The Soapstone Ridge sites are important landmarks of prehistoric Georgia and should be preserved for future generations to marvel.

Recreational features are strong, as no open space areas are planned in DeKalb County where scenic distinctiveness, ecological uniqueness, wilderness character, historical and archaeological significance and educational and scientific interest are combined in one area. Soapstone Ridge represents a unique opportunity to balance this deficit while providing an outdoor area of a significance unequalled anywhere in the Southeast.



Phillips Tract

Representing an undisturbed wilderness area that early Georgia explorers and settlers witnessed when they first crossed this section of the state in the late seventeenth century, the Phillips Tract in Tattnall County exemplifies a one-of-its-kind, last-of-its-kind and best-of-its-kind environment in Georgia, or, for that matter, in the Southeast.

Consisting of 750 acres, two-thirds of which compose a Pleistocene Sand Ridge, the most biologically important aspect of this area is that it contains more plants of *Elliottea racemosa* (the Georgia plume, which is presently known to grow indigenously in only about 10 or 12 counties in Georgia) than all the other populations in the world combined.

Another unique feature of the area is the occurrence of the largest population of *Quercus myrtifolia* (myrtle oak) known in Georgia.

The wilderness character of this area provides an excellent opportunity for the outdoorsman to enjoy nature to its fullest. Located adjacent to the Altamaha River Sand Ridge the uniqueness of this area can never be reproduced.





FORE your PLEASURE

By Dick Davis
Photos by the Author

Feel the urge to challenge par? To split the fairway with a distance drive? To watch a long putt drop for a birdie? Or to place an approach shot tantalizingly close to the cup?

You can do it all—come Summer, Winter, Spring or Fall—in three of Georgia's State Parks.

And to make it even more inviting, golf can be combined with camping, picnicking, swimming, fishing, sight-seeing and the other outstanding recreational facilities offered at Georgia's State Parks.

Would you like to beat par on a picturesque links course in the highrising foothills of the beautiful north Georgia mountains? Visit the golf course at Victoria Bryant State Park in northeast Georgia.

Perhaps you prefer eighteen holes in the more gently rolling terrain of the Georgia Piedmont. Journey to Hard Labor Creek State Park at Rutledge near Madison.

In the piney-woods of the Coastal Plain, Little Ocmulgee State Park near McRae offers an outstanding round on the links beneath the long-needed pines, the majestic magnolias, and the gracefully hanging Spanish moss.





Hard Labor Creek State Park Golf Course

Designed to take maximum advantage of the beautifully rolling landscape of Morgan County, the outstanding 18-hole Hard Labor Creek State Park Golf Course is considered one of middle Georgia's finest golf layouts. Offering almost every test the golfer may seek—on fairway, approach and green—the course is complete with an impressive clubhouse that could make many a country clubber envious.

The formidable Hard Labor Creek State Park Course has an overall length of 6682 yards using the professionals' tees. There are four par-5 holes, dog legs, water hazards and forbidding sand traps.

Golfers who keep the course busy throughout the year and from morn until evening are both day visitors and campers, state residents and tourists from near and afar.

The Hard Labor Creek links are proving to be a special attraction to golfers from Atlanta and the surrounding area. Many foursomes from Georgia's Capital City and its environs eagerly drive the relatively short distance to Rutledge to play on the excellently maintained course among the towering pines and intermingled hardwoods.

Many avid linksmen, from other cities and communities 50 or even more miles distant, converge on the course. From Madison and throughout Morgan County, and from cities and communities in surrounding coun-

ties, they come for a round of golf. Athens, Greensboro, Covington, Eatonton, Monticello, and Monroe are among the localities with ready access to the Park and course. Dodson Carter, veteran Superintendent at Hard Labor Creek State Park, who has directed the growth of the park for more than a quarter-century, counts the opening of the golf course several years ago as one of the major advancements.

Golf pro Mike Barber directs the operations at Hard Labor Creek Course. A veteran of the golfing world, Mike was formerly a professional at the Brunswick Country Club and at Cochran. He participates in local and state professional events. Homer Gilstrap assists Mike, and the excellent and constantly improving greens, fair-



Victoria Bryant State Park Course

The picture-book Victoria Bryant State Park Golf Course is a garden spot for golfing nestled in the foothills of the northeast Georgia mountains in Franklin County.

Located near Royston and within a half-hour's drive of Lavonia, Hartwell and Carnesville, and easily accessible from Elberton, Athens, Commerce and Toccoa, the Victoria Bryant nine-hole Course and Clubhouse provide an outstanding recreational facility for a multi-county area.

Overall length of the Victoria Bryant Course, using the championship tees, is 3224 yards, with two par-5 holes, a lake hole and 20 sand traps. Steep slopes, both across the width and along the length of the fairways, dog legs and menacing rough add to the difficulty of the course.

For golfers in the population centers of Atlanta, Augusta and Gainesville, who may find their local courses crowded or who seek a new challenge, the Victoria Bryant Course affords an unusual opportunity to combine a pleasant one-day visit to an area of outstanding outdoor beauty with one or more rounds of driving, pitching

and putting. There is also the open invitation from Park Superintendent David Hansen to set up housekeeping in a tent or camper or trailer and enjoy several days of golf along with swimming, fishing, picnicking, following a nature trail or just hiking.

Golf pro Bill Sargent directs the activities at the Victoria Bryant Course. A tournament veteran, Bill formerly served as pro at the Houston Lake Country Club in middle Georgia, and he now participates in the competitions of the International Association of Professional Golf. At the course, Bill offers a five-lesson instruction series for both beginners and advanced golfers at modest fees. He has also conducted a ladies' clinic. As a public service, he has arranged benefit tournaments with proceeds donated to charitable causes. A successful Lions Club tournament provides funds for services to the blind.

The attractive, well-designed clubhouse at the Victoria Bryant Course provides complete pro shop facilities with golfing equipment and supplies, a snack bar and lounging and eating area, and facilities for servicing and maintaining carts and other equipment.

ways and bunkers are a standing tribute to Homer's green thumb and dedicated efforts.

The spacious, luxurious clubhouse at Hard Labor Creek Course houses a complete pro shop operated by Mike, a snack bar and kitchen, a large eating and lounging area beautified by a fireplace, locker rooms, and storage and recharging facilities for the battery-operated golf carts and other equipment. The front of the clubhouse features a large porch affording an exceptional view of the course.

At Hard Labor Creek Park there is also the inviting opportunity to combine golf with the outdoor experiences of camping, hiking, picnicking and swimming. There are ten cottages and five mobile homes available for rental, plus numerous camping areas.



Little Ocmulgee State Park Golf Course

Far-stretching fairways, inviting greens and gaping sand traps are features of the Little Ocmulgee State Park Golf Course, a major recreational facility in south central Georgia that attracts thousands of golfers yearly through all seasons.

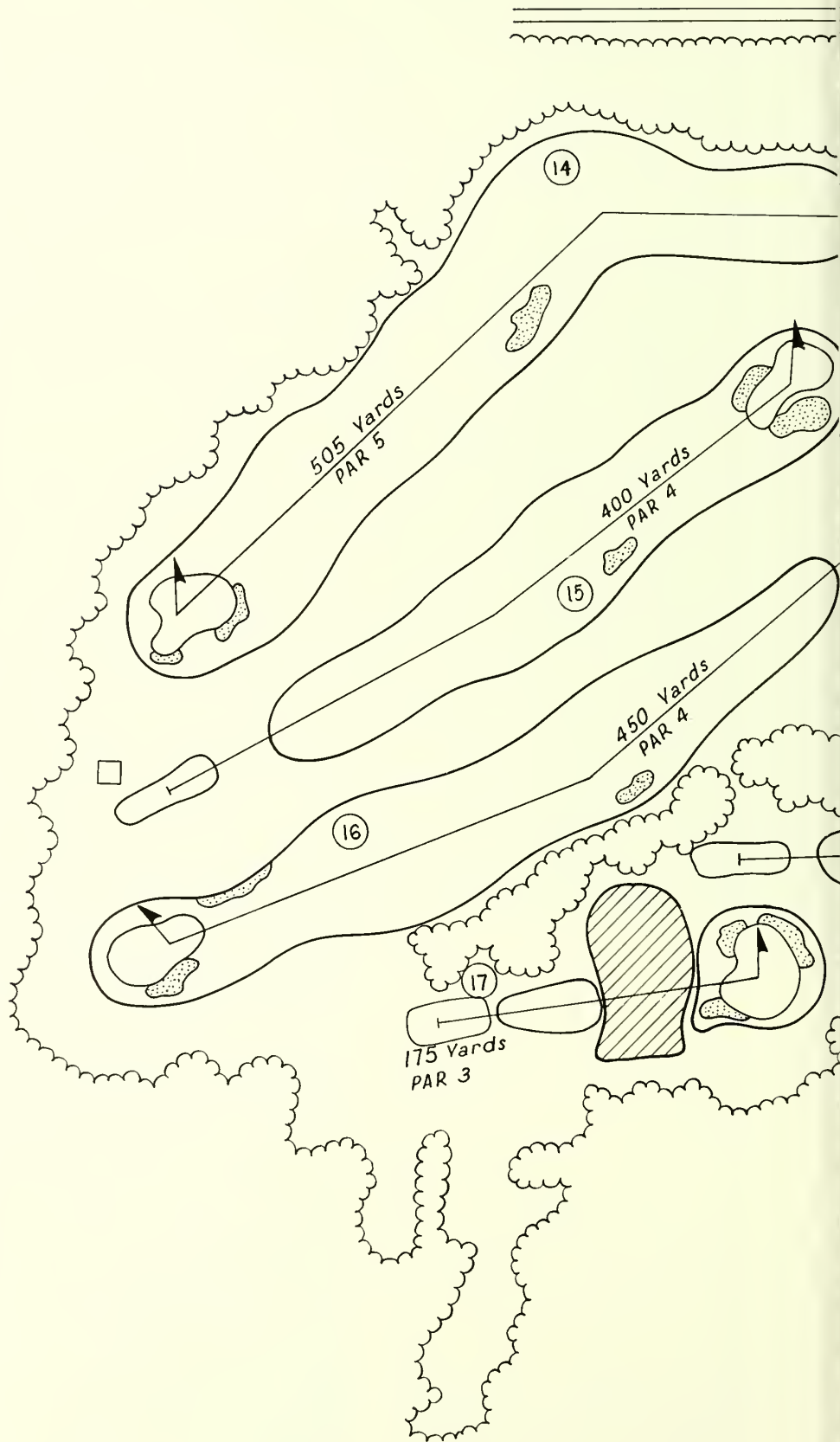
The heavily used Little Ocmulgee Course is being expanded from nine to eighteen holes, with the new nine to open during the coming summer.

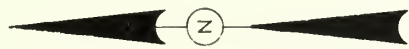
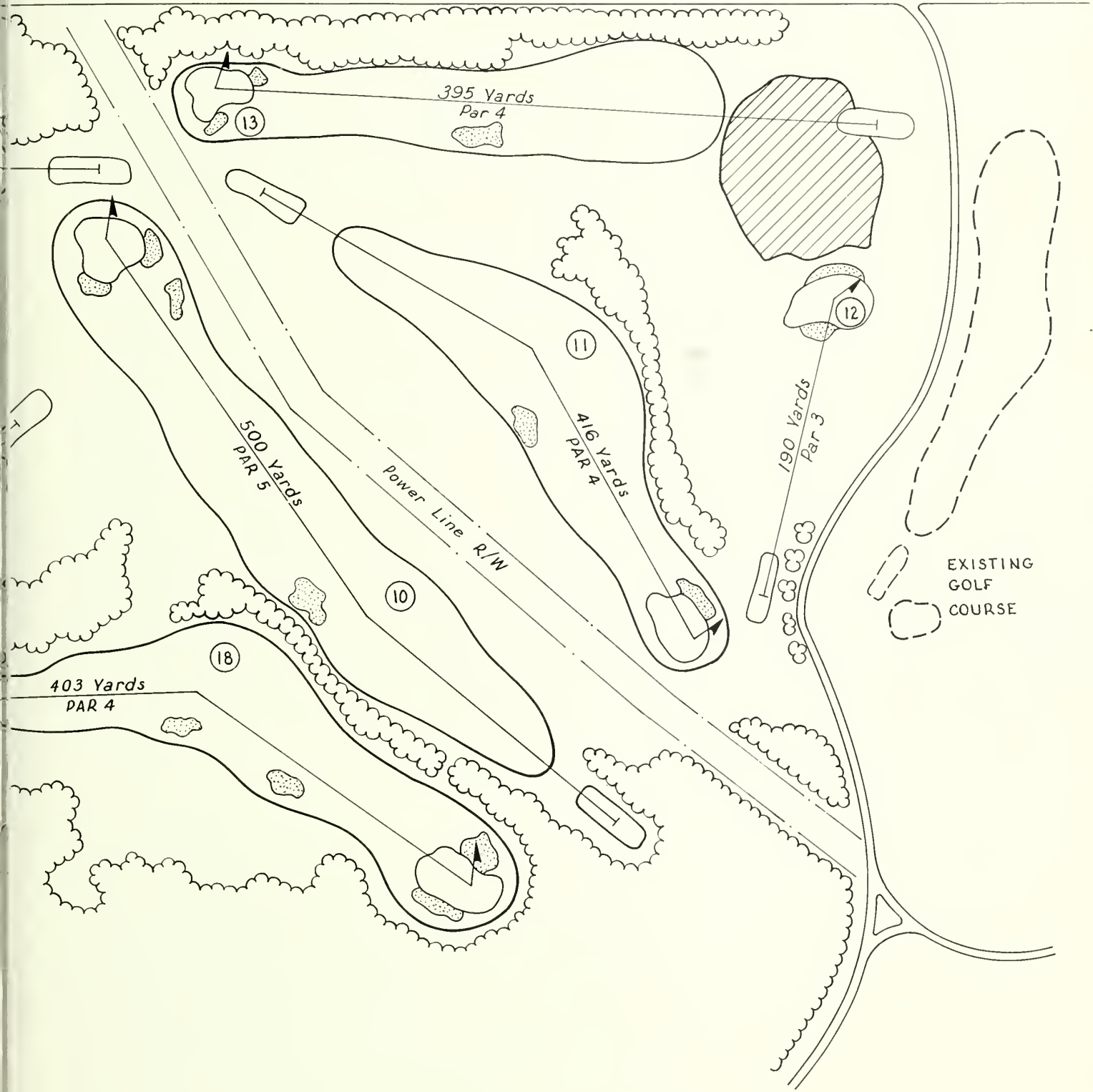
The nine holes now in use at Ocmulgee State Park have an overall length of 2972 yards using the men's tees, with two par-5 holes. When play begins on the additional nine holes, the overall length of the men's course will be 6042 yards with four par-5's. The nine holes being completed include two water holes.

The course regularly draws players from throughout Telfair County and from the surrounding counties of Laurens, Treutlen, Montgomery, Toombs, Jeff Davis, Coffee, Ben Hill, Dodge, Pulaski and Wilcox. Little Ocmulgee Park is within easy driving distance of such communities as Dublin, Soperton, Vidalia, Lyons, Hazelhurst, Douglas, Fitzgerald, Eastman and Hawkinsville, and a round on the well-designed course amply rewards the dedicated golfer for the relatively short drive to the Park which is located on U.S. Highway 441 just north of McRae. Even the "fly boys" have special access to the Little Ocmulgee Park Course. The Telfair County-Wheeler County Airport is located just across from the park entrance, affording the opportunity for a "fly-in" for golf.

Tourists from throughout the state and many parts of the nation, camping in cottages, trailer or tent, are among the many golfers to be found on the Ocmulgee Course along with their enjoyment of the other varied outdoor recreation offered in the park under the direction of veteran Superintendent Julian Price.

Links professional Ray Gentry heads the operations of the golf course, with his activities centered in the clubhouse pro shop. In addition to the demanding responsibility of maintaining the course and accommodating the many who come to play, Ray finds time to instruct and guide players, young and old, in improving





LITTLE OCMULGEE STATE PARK GOLF COURSE



their game. The Ocmulgee Park Course serves as practice and playing area for physical education students and teams from several educational institutions. The Little Ocmulgee Park Golf Course offers a special family membership plan which has proved especially successful and continues to grow in popularity.

Truly the sport for all seasons is regulation, championship-caliber golf in three of Georgia's State Parks in north, south or middle Georgia. And another big plus is that for non-golfing spouses or other members of the family there is much other outdoor recreation. So it's fun for the entire family.

As they say, try it and you'll like it!



For More Quail

By Aaron Pass





Photo by Dean Wohlgenuth

To the bobwhite quail the world appears only eight inches high; within this ground level stratum the quail must find all the necessities to fulfill his daily needs. Quail do fly and occasionally perch on logs or low limbs, but for all practical purposes the bobwhite quail (*Colinus virginianus*) is a ground-dwelling bird. Its principal foods are plant seeds pecked from the ground, it roosts and nests on the ground, and the quail prefers to walk and seldom flies when undisturbed.

Cover, the quantity and quality of food, water, dusting, roosting, and nesting areas all effect the potential of a given tract of land to hold quail and limits the number it can support. Quail populations, like all wildlife, are directly related to the quality of their habitat and gains in this population can be made only when the habitat is improved with the quail's needs in mind. Good quail management is of necessity, good habitat management.

Before we go deeper into the theories and techniques of quail management practices, there are several terms and concepts which must be understood. This is the language and terminology

of all wildlife management which in this story is directly applied to quail.

Habitat will be an oft-used word and is one of basic importance in wildlife management. Habitat is the environment, the physical surroundings, of any species of wildlife (in this case quail). It is this habitat which furnishes the quail with the necessary essentials of life, food, water, cover, etc. "Good" habitat is that environment which produces these vital components in abundance.

Carrying capacity is another basic management term which relates the wildlife population to the capability of the habitat. The carrying capacity (for quail) is that number of individuals that the habitat can adequately support at a specific time. This is not a stable number since the habitat has peaks and lows of production depending on the season. Late winter is usually the period of lowest production and consequently has the lowest carrying capacity.

Annual surplus and annual mortality are the check and balance system of wildlife population control.

Each breeding season sees the production of an overabundance, a surplus, of the individuals of most species. This surplus constitutes ample buffer against predators, disease, and other rigors of the environment and insures an adequate brood stock for the next mating season.

Working against the over-production is the reality of **annual mortality**, which seeks to bring the population back to carrying capacity of the habitat. The annual mortality in an average quail population is estimated at between 70% and 80%. This means that of all quail hatched in a given spring, 70 percent will be lost before the next spring, and that the remaining 30 percent will produce enough offspring to withstand a similar mortality in the succeeding year. This return to a fixed carrying capacity is a natural phenomenon accomplished through predation, hunting (human predation), disease, weather, or food shortage. If one or more of these factors is absent, another will account for the required loss.

Limiting factors are those conditions and forces in the habitat which

are causes of the annual mortality and fix the carrying capacity for all wildlife species in the habitat. For quail these can be "welfare factors" which are the essentials of life such as food supply, water, or cover for roosting, nesting, and escape and limit the population as a whole. They can also be "decimating factors" such as predation, disease, parasites, adverse weather and competition from other species which limit on a more individual basis. The number and degree of these limiting factors at work in a given area are the determinants of the carrying capacity in that habitat.

Population density is a more abstract term used by wildlife managers to discern the optimum population of a given area. It is basically an average that shows what numbers of a specific species a locality will support. If, for example, one 20 bird covey was found on a 200 acre farm, it would seem that an expression of this population density would read: "Density on X farm, pea patch—20 birds per acre; surrounding 199 acres—no birds." In actuality this population density would be expressed as "one bird per 10 acres." Since the optimum density approaching saturation (that point at which the population will no longer expand) is about one bird per acre in an intensive management situation, it is possible that well planned quail management could increase the 1:10 ratio of the example.

Quail management is, in effect, the manipulation of the available habitat to improve the production of quail values or to remove liabilities. Within reason, known limiting factors may be lessened or even removed to increase the population density and the overall carrying capacity. Of course these various limiting factors may differ in importance in different habitat localities, and trained eyes may be needed to spot the problem. All the food patches in the world will not increase a quail population in a habitat with a limiting factor of lack of cover.

Successful management occurs by identification of the **key** limiting factor in effect on any individual tract of habitat. If this limiting factor is removed or substantially lessened in view of quail needs, the population will theoretically then increase to the carrying capacity tolerated by the next most significant limiting factor.

Modern quail management is usual-



Quail spend the midday hours loafing in cover and dusting in dry exposed soil.

ly directed toward the positive aspect of improving the supply of the "welfare" factors such as food, water and cover. Control of the "decimating" factors is often neither possible nor desirable because of their valuable effects. Weather is, of course, an uncontrollable, but its most damaging effects can be lessened by provision of adequate cover.

Predator control has been tried and tried again, only to be found, again and again, generally worthless for increasing small game populations such as quail. The elimination of natural

predators has rather been found to be detrimental to the management of small game. Natural predators are opportunistic, taking that prey which is most easily caught, usually the slow, weak, or otherwise unfit individuals. In the case of the quail, this tends to selectively remove the diseased and parasite-ridden birds before other members of the covey can become infected. Also, since most quail predators prey on cotton rats and other small rodents, they tend to reduce the quail's competition for available food and cover. By removing natural pred-



Photo by Ted Borg

The hunter's regulated harvest does not deplete the quail population. It is part of the annual mortality that would be lost to other causes.

ators, it is also possible to remove the natural controls on competition from other species and against the spread of disease.

Stocking additional birds into an area would seem to be an obvious and direct solution to a low quail population. Stocking was one of the earliest methods tried by game departments to increase the numbers of quail and other small game species. The results of all these attempts have been almost universally zero, but many individuals still cling to the idea that stocking would surely boost sagging quail hunting. This ignores the basic management concept of carrying capacity, in which an annual surplus is produced naturally and is just as naturally reduced to the number which can be supported by the habitat.

Once again we have returned full circle to that magic word, habitat, and its relationship to a good quail population. Just what is good quail habitat and how does one develop it?

For management purposes quail are often classed with other game species having the same habitat preferences. Quail have always been associated

with farming and agriculture, and are often referred to as "farm game." More specifically, quail are usually found along field borders, woods edges, and other transitional areas in an "early successional habitat." That last, high-sounding phrase meaning land in the early stages of plant succession by which cleared land eventually reverts to forest. Annual weeds come first, followed by perennials, then woody shrubs; saplings sprout and the former field is reclaimed by the forest. Quail needs are favored by these early stages and a simple approach to effective quail management would be to keep land in this transitional condition.

Quail needs are fairly simple and basic; food, water, and cover. Water is seldom a problem in the southeast, except when it is present excessively during the nesting season. So we are left with food and cover (welfare limiting factors) as the habitat values most efficiently manipulated to increase the carrying capacity of the area.

Quail food preferences are relatively narrow. Seeds from annual and

perennial weeds, grasses, and small grains from crops make up about 60 to 65% of the annual diet. Another 15 to 20% comes from wild fruits and berries, but this is seasonal as are insects which make up about 15%. By and large it is the seeds and grains that see the quail through the hard times of late fall, winter, and early spring. Food patches planted for quail should include a selection of plants adaptable to the region. The lespedezas (bicolor, Kobe, serica), millet, peas, and the cereal grains are all good choices for quail.

Artificial feeders are not a very good method of increasing the available food in a given habitat, as they tend to concentrate the birds in a small area, making them susceptible to disease and excessive predation.

In many cases, a particular habitat will provide ample food supplies but be deficient in cover. Adequate cover then becomes the "most-limiting" factor and additional food plots would be of no avail. The cover needs of the bobwhite quail are varied and depend on the use of the cover. For roosting and nesting, quail utilize tall grass or

low weeds and brush with an open overstory. Such low cover is not preferred by the covey during midday loafing hours, however. Small thickets of heavier brush are utilized for such protected lounging and might be referred to as a "headquarters" area. When pursued by predators or during especially severe weather, the covey utilizes very dense thickets and woodlands for escape cover. All these cover types must be present for optimum management of quail.

Most farms have areas which produce both food and cover for quail in abundance but still have poor quail populations. The answer to this riddle is usually the **interspersal factor**, or the physical location of the necessary components in relation to one another. Quail are fairly localized creatures and will not venture far from cover to find food and water.

A tract that consists of 500 acres of contiguous cropland and 1000 acres of unbroken mature forest is not 1500 acres of quail habitat. The useable

quail habitat will be restricted to the edge between field and forest, and this is useful only if the field border is somewhat brushy. Ideal interspersal for quail management would be 500 one-acre weedy food-plots scattered through 1500 acres of forest, with brush around each plot. This would be totally unfeasible from the standpoint of agricultural production, but the quail would thrive.

There are a number of things that can be easily and economically done to increase quail populations on farmland. Food, in the form of weed seeds and waste grain, is usually abundant but may be too far from adequate cover. A border strip of brush around all fields can be maintained by periodic disking or mowing. This will keep the vegetation in an early successional stage, and useful for quail. This same technique is recommended where pasture and woodlands join, and if small thickets of brush are left sprinkled through pastures and fields so much the better, as these will

serve as headquarters cover. Other small things like not filling a brushy ravine between two fields or leaving a grassy corner unmowed and ungrazed are much appreciated by the quail.

Forest land is more difficult to manage for quail, but with little expense good quail habitat may be maintained in the forest. The main problem with woodland is directly opposite to that of farm land; cover is usually adequate but food is scarce. It is on land which is predominantly in forest cover that food plots are most useful to the wildlife manager. The plots should be small (less than an acre) and irregular in shape. Long, narrow forest openings seeded to perennial or naturally reseeding annual seed producers are part of good forest management for quail.

In mature forests, cover as well as food may be limited. A closed tree canopy will shut off the light getting to the ground and carpet the ground with litter and debris. This will seriously deplete the understory on which the



Attempting to increase available quail food by artificial feeding is not usually a good idea. The feeders tend to concentrate the birds, making them vulnerable to disease and predators.

quail depend for cover and any food produced by the trees or shrubs will sift through the thick layer of leaves, called "duff" where the quail, a weak scratcher, can't get to it.

In a pine forest, this situation can be rectified by prescribed burning, and a thinning of the trees. The fire will remove the duff and expose mineral soil and the sunlight reaching the forest floor will encourage the growth of low plants which will furnish food and cover for the quail. A "cool" fire which burns only the ground cover and does not damage the trees is desired, so burning should be carried out on cool, damp, windless days in late winter. Fire lanes or breaks at least six feet wide should be cut at five to eight hundred foot intervals to control the fire. These can later be planted as food plots. In a hardwood forest, fire can be damaging to the timber. Openings and food patches should be relied on in such areas.

The thoughtful application of any or all of the above practices and techniques is the key to successful quail management. Most of these can be ac-

complished by an individual landowner, but a bit of professional advice might save a lot of wasted effort expended in the wrong direction. The trained wildlife manager will spot the most significant limiting factors and suggest management techniques directed specifically at alleviating those conditions. Wildlife biologists with the Game and Fish Division of the Department of Natural Resources will advise landowners free of charge of the most effective management practices for their land. An informative booklet, *How To Have Small Game*, also free, is available through the Public Relations and Information Section of the Department of Natural Resources, 270 Washington Street, Atlanta, Georgia.

One more point of advice, once a

population is established and growing, by all means hunt it. Game, particularly small game, cannot be stockpiled. Keep in mind that natural causes remove 70% of the quail population annually. Regulated hunting is a valid form of predation and as such fits into the scheme as a normal limiting factor. Numerous scientifically pursued studies have shown that human predation (hunting) has a relatively insignificant effect on small game populations in good habitat.

There's that word habitat again, the real key to increased wildlife populations. Without good habitat, no amount of control on hunting or natural predation can save wildlife. With good habitat, natural predation and regulated hunting are not only harmless, they are actually beneficial.

This well managed pine stand produces both timber and quail through application of planned management techniques.



Sportsman's Calendar

DUCKS: December 2 through January 20. Bag limit is 5 daily with the possession limit of 10. Limits on ducks are one black duck daily and two in possession, four mallards daily and eight in possession, and two wood ducks daily and four in possession.

CANVASBACK, REDHEAD DUCKS, BRANT AND GEESE: There is no open season.

COOTS: December 2 through January 20. Bag limit is 15 daily with the possession limit of 20.

FOX: There is no closed season on the taking of fox. It is unlawful for any person to take or attempt to take any fox, within the State, by use or aid of recorded calls or sounds or recorded or electronically amplified imitations of calls or sounds.

GROUSE: October 14 through February 28. Bag limit 3 daily with the possession limit of 6.

WILD HOGS: Hogs are considered non-game animals in Georgia. They are legally the property of the landowner, and cannot be hunted without his permission, except on public lands. Firearms are limited to shotguns with Number 4 shot or smaller, .22 rimfire rifles, centerfire rifles with bore diameter .225 or smaller, all caliber pistols, muzzle loading firearms and bows and arrows.

RACCOON: October 16 through February 28 in Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert and all counties north of those listed. Bag limit 1 per night per person. Night hunting allowed. All counties south of the above named counties are open year round for the taking of racoons. No bag limit. Night hunting allowed.

SQUIRREL: November 4 through February 28. Bag limit 10 daily.

TURKEY: November 20 through February 28 in Baker, Calhoun, Decatur, Dougherty, Early, Grady, Miller, Mitchell,

Seminole, Thomas Counties. Bag limit 2 per year.

OPOSSUM: October 16 through February 28 in Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed. No bag limit. Night hunting allowed. All counties south of the above named counties are open year round for the taking of opossum. No bag limit. Night hunting allowed.

QUAIL: November 20 through February 28. Statewide season. Bag limit 12 daily with the possession limit of 36.

RABBIT: November 20 through January 31 in the counties of Carroll, Fulton, DeKalb, Gwinnett, Hall, Habersham, and all counties north of those listed. Bag limit 5 daily. November 20 through February 28 in all counties south of the above listed counties. Bag limit 10 daily.



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